

REMARKS:

Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 are currently pending in the subject Application.

Claims 2, 3, 9, 10, 16, 17, 24, 30, 36, and 42 have been previously canceled without prejudice.

Claims 1 and 4-7 stand rejected under 35 U.S.C. § 101.

Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 stand rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,047,290 to Kennedy et al. ("Kennedy") in view of U.S. Patent Publication No. 2002/0156663 to Weber et al. ("Weber").

Applicants respectfully submit that all of Applicants arguments and amendments are without *prejudice or disclaimer*. In addition, Applicants have merely discussed example distinctions from the cited prior art. Other distinctions may exist, and as such, Applicants reserve the right to discuss these additional distinctions in a future Response or on Appeal, if appropriate. Applicants further respectfully submit that by not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner's additional statements. The example distinctions discussed by Applicants are considered sufficient to overcome the Examiner's rejections. In addition, Applicants reserve the right to pursue broader claims in this Application or through a continuation patent application. No new matter has been added.

Weber is Invalid Prior Art Over the Subject Application

Applicants respectfully submit that the subject Application was filed on 4 December 2001 and claims the benefit under 35 U.S.C. § 119(e) of U.S. Provisional Application No. 60/281,144, filed 2 April 2001. *Weber*, which published on 24 October 2002, was not filed until 13 July 2001. Therefore, because the filing date of *Weber* is after the priority date of the subject Application, that is, because the priority date of the subject Application is *three months prior to the filing of Weber*, *Weber is invalid as prior art over the subject Application*.

It is noted however, that even though *Weber* claims priority to a provisional application filed 13 July 2000, much of the teaching relied upon by the Examiner in rejecting Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 under 35 U.S.C. § 103(a) is not part of the provisional application filed 13 July 2000. The disclosure of the invention in the parent application (i.e., provisional Application) and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994). In particular the Examiner alleges:

In response to argument (1), Applicant merely alleges that *Weber* does not provide support in its provisional for 60/218640 without any facts or support. Therefore, Applicant's allegation is unpersuasive.

(8 August 2008 Office Action, Pages 8-9). However, the Examiner's allegations are not the test, that is, the test is not that the *Applicants provide facts or support for whether the provisional application contains proper support for the subject matter that the Examiner is relying on*. In fact, Applicants respectfully request the Examiner to cite a specific rule in 37 C.F.R. or in the MPEP that states that *Applicants provide facts or support for whether the provisional application contains proper support for the subject matter that the Examiner is relying on*. Applicants simply do not understand why the Examiner is unable to properly provide a proper showing that *the provisional application(s) properly supports the subject matter relied upon to make the rejection in compliance with 35 U.S.C. 112, first paragraph*. The Examiner may call the undersigned, Steven J. Laureanti, at (480) 830-2700 if the Examiner believes it would be easier to discuss the source of confusion over the telephone.

Accordingly, if the Examiner continues to cite *Weber* as prior art, which it is not valid prior art, which is clearly not valid prior art, over the subject Application, *Applicants respectfully request that the Examiner produce a showing under MPEP 2136.03 that "the provisional application(s) properly supports the subject matter relied upon to make the rejection in compliance with 35 U.S.C. 112, first paragraph."*

Applicants respectfully submit that *Weber* is not valid prior art over the subject Application. Thus, Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 are patentable over the cited

reference, (i.e., *Kennedy*) because, as discussed below, the Examiner acknowledges that *Kennedy* fails to disclose various limitations recited in Applicants Claims.

REJECTION UNDER 35 U.S.C. § 101:

Claims 1 and 4-7 stand rejected under 35 U.S.C. § 101 as allegedly being directed towards non-statutory subject matter. Applicants respectfully disagree.

Nonetheless, Applicants have amended independent Claim 1 to more particularly point out and distinctly claim the Applicant's invention. By making these amendments, Applicants do not indicate agreement with or acquiescence to the Examiner's position with respect to the rejections of independent Claim 1 under 35 U.S.C. § 101, as set forth in the Office Action.

For at least these reasons, Applicants respectfully submit that independent Claim 1 is directed to statutory subject matter and is in condition for allowance. Applicants further respectfully submit that Claims 4-7 depend from amended independent Claim 1 and are also directed to statutory subject matter and are in condition for allowance. Therefore, Applicants respectfully request that the rejection of Claims 1 and 4-7 under 35 U.S.C. § 101 be reconsidered and that Claims 1 and 4-7 be allowed.

REJECTION UNDER 35 U.S.C. § 103(a):

Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 stand rejected under 35 U.S.C. § 103(a) over *Kennedy* in view of *Weber*.

Applicants respectfully submit that *Weber* is invalid as prior art, and as such is not properly citable over the subject Application. Accordingly, Applicants respectfully submit that *Kennedy* fails to disclose, teach, or suggest each and every element of Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43. Thus, Applicants respectfully traverse the Examiner's obvious rejection of Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 under 35 U.S.C. § 103(a) over *Kennedy*.

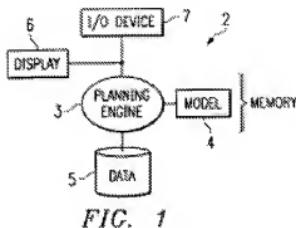
The Proposed *Kennedy-Weber* Combination Fails to Disclose, Teach, or Suggest Various Limitations Recited in Applicants Claims

For example, with respect to independent Claim 8, this claim recites:

A system for generating a supply chain plan, comprising:
a database configured to store data describing a supply chain network comprising a plurality of buffers, each **buffer configured to store a plurality of items and associated with a corresponding time variable**, the supply chain network constrained by a constraint;
a **linear programming optimizer** coupled with the database and configured to:
generate a linear programming problem for the supply chain network;
approximate the linear programming problem by discretizing the corresponding time variables of the buffers to yield a plurality of discretized corresponding time variables and by relaxing the constraint to yield a relaxed constraint; and
calculate an optimized supply chain plan for the approximated linear programming problem, the optimized supply chain plan describing a quantity of items at each buffer for at least one time value of the corresponding time variable and including a list of producers configured to supply the items to each buffer; and
a heuristic solver coupled with the database and configured to adjust the optimized supply chain plan to satisfy the constraint, wherein the heuristic solver is configured to adjust the optimized supply chain plan by:
repeating the following until a last upstream buffer is reached:
selecting a buffer;
adjusting one of (a) the quantity of items at the selected buffer, and (b) at least one time value of the corresponding time variable of the selected buffer to satisfy the constraint; and
proceeding to a next upstream buffer; and
repeating the following until a last downstream buffer is reached:
selecting a buffer;
planning production to either (a) supply the items to the selected buffer at the adjusted time value, or (b) supply the adjusted quantity of items to the selected buffer; and
proceeding to a next downstream buffer; and
an order planner coupled with the database and configured to generate an order plan by planning production to supply the quantity of items to each buffer according to the list of producers associated with the buffer.

(Emphasis Added). In addition, *Kennedy* or *Weber*, either individually or in combination, fail to disclose each and every limitation of independent Claims 1, 15, 22, and 23.

Applicants respectfully submit that *Kennedy* fails to disclose, teach, or suggest independent Claim 8 limitations regarding a “database configured to store data describing a supply chain network comprising a plurality of buffers, each *buffer being configured to store a plurality of items and associated with a corresponding time variable* the supply chain network constrained by a constraint”. By contrast, the cited portion of *Kennedy* on which the Examiner relies does not disclose a “database configured to store data describing a supply chain network comprising a plurality of buffers, each *buffer being configured to store a plurality of items and associated with a corresponding time variable* the supply chain network constrained by a constraint”, as recited in independent Claim 8 but rather is *a software object that models the management of the flow of interchangeable items in the supply chain or manufacturing plant*. (Column 2, Lines 39-65). (Emphasis added). In fact, Applicants respectfully direct the Examiner’s attention to Figure 1 of *Kennedy*, on which the Examiner relies:



Applicants further respectfully direct the Examiner’s attention to the cited portion of *Kennedy*, on which the Examiner relies:

Typically, *the present invention can be implemented using a variety of software objects*. As used herein, an “item” is a unit of raw material or assembled components that flows through the supply chain or manufacturing process. *A “buffer” refers to a software object that models the management of the flow of interchangeable items in the supply chain or manufacturing plant*. For the most part, material and inventory planning functionality is attached to buffers. A buffer can model all flow of a particular item, or a subset of that. In modeling a supply

chain, a buffer typically only models the flow of items at a particular location (an SKU). Smaller subsets can be defined. For example, one buffer could model items at a location to be supplied to a very important customer, while another buffer could model items supplied to other customer. One buffer could model items at a location built a certain way (e.g., by a U.S. Military-approved resource), while another buffer models the rest. In general, a buffer defines interchangeability, and the items managed by a buffer are interchangeable.

(Column 2, Lines 38-56). Applicants respectfully submit that the Examiner has mischaracterized Figure 1 and the cited portion of *Kennedy*. For example, *Kennedy* does not disclose “[b]uffers are used to store items (i.e. resources, etc.) and associated time values (i.e. delivery time, timing),” as asserted by the Examiner, but instead, are a “*software object that models the management of the flow of interchangeable items in the supply chain or manufacturing plant.*”

Applicants further respectfully submit that it appears that the Examiner is attempting to equate the “*plurality of buffers*” recited in independent Claim 8 with the term “*buffer*” disclosed in *Kennedy*. Applicants respectfully submit that this equation is inaccurate, that is the term “*buffer*” as disclosed in *Kennedy*, does not equate to the “*plurality of buffers*” as recited in independent Claim 8 because, among other things, the term “*buffer*” disclosed in *Kennedy* is only a *software object that models the management of the flow of interchangeable items in the supply chain or manufacturing plant* and is not “*operable to store a plurality of items and associated with a corresponding time variable*” the supply chain network constrained by a constraint”, as recited in independent Claim 8. Applicants respectfully request the Examiner to verify the references to *Martin*, to ensure that some mistake has not been made.

The Office Action Acknowledges that *Kennedy* Fails to Disclose Various Limitations Recited in Applicants’ Claims

Applicants respectfully submit that the Office Action acknowledges, and Applicants agree, that *Kennedy* fails to disclose various limitations recited in independent Claim 8. Specifically the Examiner acknowledges that *Kennedy* fails to disclose:

the algorithm used for the supply chain network is a generated linear programming problem, *approximating this linear programming problem by discretizing the time variables of the buffers to yield a plurality of discretized*

time variables and by relaxing the constraint to yield a relaxed constraint, or calculating an optimized supply chain plan for the approximated linear programming problem.

(8 August 2008 Office Action, Pages 8-9). (Emphasis added). However, the Examiner asserts that the cited portions of *Weber* disclose the acknowledged shortcomings in *Kennedy*. Applicants respectfully disagree and respectfully submit that, as discussed above, *Weber* is invalid as prior art, and as such is not properly citable over the subject Application.

In addition, the Examiner has merely cited various paragraphs in the *Weber* non-provisional application, but has failed to even cite or rely on any part of the *Weber* provisional application. Therefore, if the Examiner continues to cite the *Weber* non-provisional application as prior art, which it is not valid prior art, which is clearly not valid prior art, over the subject Application, *Applicants respectfully request that the Examiner produce a showing under MPEP 2136.03 that “the provisional application(s) properly supports the subject matter relied upon to make the rejection in compliance with 35 U.S.C. 112, first paragraph.”* Again the Examiner may call the undersigned, Steven J. Laureanti, at (480) 830-2700 if the Examiner believes it would be easier to discuss the source of the confusion over the telephone.

The Office Action Fails to Properly Establish a *Prima Facie* case of Obviousness over the Proposed *Kennedy-Weber* Combination According to the UPSTO Examination Guidelines

Applicants respectfully submit that the Office Action fails to properly establish a *prima facie* case of obviousness based on the proposed combination of *Kennedy* or *Weber*, either individually or in combination, and in particular, the Office Action fails to establish a *prima facie* case of obviousness based on the “Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*” (the “Guidelines”).

As reiterated by the Supreme Court in *KSR International Co. v. Teleflex Inc. (KSR)*, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.* (383 U.S. 1, 148 USPQ 459 (1966)). Obviousness is a question of law based on underlying factual inquiries. These factual inquiries enunciated by the Court are as follows:

- (1) Determining the scope and content of the prior art;
- (2) Ascertaining the differences between the claimed invention and the prior art; and
- (3) Resolving the level of ordinary skill in the pertinent art.

(Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)). Objective evidence relevant to the issue of obviousness must be evaluated by Office personnel. (383 U.S. 17–18, 148 USPQ 467 (1966)). As stated by the Supreme Court in *KSR*, “While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.” (*KSR*, 550 U.S. at __, 82 USPQ2d at 1391).

However, it is important to note that the Guidelines require that Office personnel “*ensure that the written record includes findings of fact* concerning the state of the art and the teachings of the references applied. (Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)). In addition, the Guidelines remind Office personnel that the “*factual findings made by Office personnel are the necessary underpinnings to establish obviousness.*” (*id.*). Further, “*Office personnel must provide an explanation to support an obviousness rejection* under 35 U.S.C. 103. (*id.*). In fact, “35 U.S.C. 132 requires that the applicant be notified of the reasons for the rejection of the claim so that he or she can decide how best to proceed” and “clearly setting forth findings of fact and the rationale(s) to support a rejection in an Office action leads to the prompt resolution of issues pertinent to patentability.” (*id.*).

With respect to the subject Application, the Office Action has not shown the *factual findings necessary to establish obviousness* or even *an explanation to support the obviousness rejection* based on the proposed combination of *Kennedy and Weber*, either individually or in combination. The Office Action merely states that “it would have been obvious to one of ordinary skill in the art at the time of the invention to use the OR techniques...yielding a solution that allows user to make tactical and strategic decisions.” (8 August 2008 Office Action, Page 10). Applicants respectfully disagree and respectfully submits that the Examiner’s conclusory statement is not sufficient to establish the *factual findings necessary to establish obviousness* and is not a sufficient *explanation to support the obviousness rejection* based on the proposed combination of *Kennedy and Weber*. *Applicants respectfully request that the Examiner provide proper support for the obviousness rejection under 35 U.S.C. 103 as necessitated by the Guidelines, including the factual findings necessary to establish obviousness to “ensure that the written record includes*

findings of fact concerning the state of the art and the teachings of the references applied. (Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)).

The Guidelines further provide guidance to Office personnel in “determining the scope and content of the prior art” such as, for example, “Office personnel must first obtain a thorough understanding of the invention disclosed and claimed in the application.” (Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)). The scope of the claimed invention must be clearly determined by giving the claims the “broadest reasonable interpretation consistent with the specification.” (See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005) and MPEP § 2111.). In addition, the Guidelines state that any “**obviousness rejection should include**, either explicitly or implicitly in view of the prior art applied, *an indication of the level of ordinary skill.*” (Notice, 72 Fed. Reg. 57528 (Oct. 10, 2007)). With respect to the subject Application, the Office Action has not provided *an indication of the level of ordinary skill. Applicants respectfully request that the Examiner provide proper support for the obviousness rejection under 35 U.S.C. 103 as necessitated by the Guidelines, including an indication of the level of ordinary skill, relied upon by the Examiner.* (Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)).

The Guidelines still further provide that once the *Graham* factual inquiries are resolved, Office personnel must determine whether the claimed invention would have been obvious to one of ordinary skill in the art. (*Id.*). For example, the Guidelines state that *Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.* (*Id.*). In addition, the Guidelines state that the proper analysis is *whether the claimed invention would have been obvious to one of ordinary skill in the art after consideration of all the facts.* (*Id.* and See 35 U.S.C. 103(a)).

With respect to the subject Application, the Office Action has not expressly resolved any of the *Graham* factual inquiries to determine whether Applicants’ invention would have been obvious to one of ordinary skill in the art. In addition, the Office Action fails to *explain why the difference(s) between the proposed combination of Kennedy, Weber and Applicants’ claimed invention, would have been obvious to one of ordinary skill in the art.* The Office Action merely states that “in order to increase the efficiency of obtaining an optimal solution.” (8 August 2008 Office Action, Page 10). Applicants respectfully disagree and further respectfully requests

clarification as to how this statement *explains why the difference(s) between the proposed combination of Kennedy and Weber, either individually or in combination, and Applicants' claimed invention would have been obvious to one of ordinary skill in the art*. Applicants further respectfully submit that the Examiner is using the subject Application as a template to formulate reconstructive hindsight, which constitutes impermissible use of hindsight under 35 U.S.C. § 103(a).

The Guidelines yet further state that the “key to supporting any rejection under 35 U.S.C. 103 is the *clear articulation of the reason(s) why the claimed invention would have been obvious.*” (Notice, 72 Fed. Reg. 57528 (Oct. 10, 2007)). In fact, the Supreme Court in *KSR* noted that “*the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.*” (*id.*) The Court quoting *In re Kahn* (441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)), stated that “[R]ejections on *obviousness cannot be sustained by mere conclusory statements*; instead, there *must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.*” (*KSR*, 550 U.S. at __, 82 USPQ2d at 1396). The Guidelines provide the following seven rationales:

- (A) Combining prior art elements according to known methods to yield predictable results;
- (B) Simple substitution of one known element for another to obtain predictable results;
- (C) Use of known technique to improve similar devices (methods, or products) in the same way;
- (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- (E) “Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art;
- (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Applicants respectfully submits that the *Office Action fails to provide any articulation, let alone, clear articulation of the reasons why Applicants' claimed invention would have been obvious.* For example, the *Examiner has not adequately supported the selection and combination*

of Kennedy and Weber to render obvious Applicants' claimed invention. The Examiner's unsupported conclusory statements that "it would have been obvious to one of ordinary skill in the art at the time of the invention to use the OR techniques...yielding a solution that allows user to make tactical and strategic decisions" and "in order to increase the efficiency of obtaining an optimal solution" *does not adequately provide clear articulation of the reasons why Applicants' claimed invention would have been obvious.* (8 August 2008 Office Action, Page 10). In addition, the Examiner's unsupported conclusory statement fails to meet any of the Guidelines rationales to render obvious Applicants' claimed invention.

Thus, if the Examiner continues to maintain the obvious rejection based on the proposed combination of *Kennedy and Weber*, *Applicants respectfully request that the Examiner provide proper support for the obviousness rejection under 35 U.S.C. 103 as necessitated by the Guidelines, including a statement by the Examiner identifying which one of the seven rationales the Examiner is relying on and the proper analysis of that particular rationale, as required by the Guidelines.*

Applicants Claims are Patentable over the proposed *Kennedy-Weber* Combination

Applicants respectfully submit that independent Claims 1, 8, 15, 22 and 23 each contain unique and novel limitations that are not disclosed, taught, suggested, or even hinted at in *Kennedy and Weber*, either alone or in combination. Applicants further respectfully submit that claims 1, 8, 15, 22 and 23 are not rendered obvious over the proposed combination of *Kennedy and Weber*, because the filing date of *Weber* is after the priority date of the subject Application, that is, the priority date of the subject Application is *three months prior to the filing of Weber*, and therefore, *Weber is invalid as prior art over the subject Application.*

Applicants further respectfully submit that dependent claims 4-7, 11-14, 15-21, 25-29, 31-35, 37-41, and 43 are not rendered obvious over the proposed *Kennedy and Weber* combination and are also considered to be in condition for allowance for at least the reason of depending from allowable claims.

For at least the reasons set forth herein, Applicants respectfully submit that Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 are not rendered obvious by the proposed combination of

Kennedy and Weber. Applicants further respectfully submit that Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 are in condition for allowance. Thus, Applicants respectfully request that the rejection of Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 under 35 U.S.C. § 103(a) be reconsidered and that Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 be allowed.

CONCLUSION:

In view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and early reconsideration and a Notice of Allowance are earnestly solicited.

Although Applicants believe no fees are deemed to be necessary; the undersigned hereby authorizes the Commissioner to charge any additional fees which may be required, or credit any overpayments, to **Deposit Account No. 500777**. If an extension of time is necessary for allowing this Response to be timely filed, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) to the extent necessary. Any fee required for such Petition for Extension of Time should be charged to **Deposit Account No. 500777**.

Please link this application to Customer No. 53184 so that its status may be checked via the PAIR System.

Respectfully submitted,

10 November 2008
Date

/Steven J. Laureanti/signed

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